What is claimed is:

1. A method for forming a pattern in a film carried on a substrate, said method comprising;

obtaining a mold of a material, which mold is hard relative to the film,

the film comprising a polymeric composition capable of being deformed by said mold at a temperature of less than 200°C;

the mold having first and second protruding features spaced apart from each other and a recess formed thereby, fthe first and second features and the recess having a shape forming a mold pattern and providing at least one mold pattern lateral dimension which is less than 200 nm;

urging the mold into the film under a molding pressure;

the thickness of the film under the protruding features of the mold being reduced, thereby forming the mold pattern in the film;

removing the mold from the film; and

removing from the film the areas of reduced thickness, thereby exposing portions of the surface of the substrate which underlie the thin region such that the exposed portions of the surface of the substrate substantially replicate the mold pattern and have at least one lateral dimension which is less than 200 nm.

2. The method of claim 1, wherein the polymeric composition comprises a homopolymer, a copolymer, a random polymer, a block polymer, a grafted polymer, a telechelic polymer, a star polymer, a dendrimer, or any combination thereof.

3. The method of claim 1, wherein the polymeric composition comprises: poly(methyl methacrylate), poly(bisphenol-A carbonate), poly(methylhexadecylsiloxane), poly(methylacrylate), poly(*n*-butyl acrylate), poly(octadecyl methacrylate), poly(isobutyl methacrylate), poly(butyl methacrylate), poly(vinylacetate), poly(vinyl stearate), poly(ethylene oxide), polycaprolactone, poly(α-methylstyrene), poly(vinyl stearate)/poly(methyl methacrylate), poly(methylhexadecylsiloxane)/ poly(methyl methacrylate), poly(octadecyl methacrylate)/ poly(methyl methacrylate), poly(butyl methacrylate-co-isobutylmethacrylate), poly(butyl methacrylate-co-methyl methacrylate), poly(dimethylsiloxane-co-alpha-methylstyrene), poly(ethylene-co-vinylacate)-graft(*t*-maleic anhydride), poly(vinyl chloride-co-vinylacetate), poly(vinyl chloride-co-isobutylvinylether), poly(chlorotrifluorethylene-co-vinyldiene fluoride), or any combination thereof.

4. The method of claim 1, wherein the polymeric composition comprises an oligomer, said oligomer comprising an epoxy resin, an acrylic (methylacrylic) oligomer, a reactive polysiloxane oligomer, or any combination thereof.

5. The method of claim 1, wherein the polymeric composition further comprises a monomer, said monomer comprising a C_8-C_{20} alkyl methacrylate, a fluorinated alkyl (meth)acrylate monomer, or any combination thereof.

6. The method of claim 1, wherein the polymeric composition further comprises a crosslinker, said crosslinker comprising DVB, TMPTA,, or any combination thereof.

7. A method of forming a plurality of structures having at least one dimension less than 200 nm, which comprises the step of imprinting a nanoimprint resist using a mold, said nanoimprint resist comprising a polymeric composition capable of being deformed by said mold at a temperature of less than 200°C, said polymeric composition capable of retaining said plurality of structures upon removal of said mold.

8. The method of claim 7, wherein said polymeric composition is capable of being deformed at a temperature of less than about 100°C.

9. The method of claim 7, wherein said polymeric composition comprises a photocurable polymeric composition, a thermoplastic polymeric composition, a thermosettable polymeric composition, or any combination thereof.

10. The method of claim 9, wherein said photocurable polymeric composition is capable of curing in less than about 2 seconds.

11. The method of claim 9, wherein said photocurable polymeric composition has a viscosity of greater than about 2 poise at 25°C.

12. The method of claim 11, wherein said photocurable polymeric composition has a viscosity in the range of about 10 poise to about 30 poise.

13. The method of claim 9, wherein said photocurable polymeric composition comprises an oligomer, said oligomer comprising silicon atoms.

14. The method of claim 9, wherein said photocurable polymeric composition is capable of crosslinking in less than about 2 seconds.

15. The method of claim 9, wherein said photocurable polymeric composition comprises up to about 90 weight percent monomer.

16. The method of claim 7, wherein said nanoimprint resist further comprises a plasticizer, a mold release agent, a monomer, a crosslinker, an additive, or any combination thereof.

17. The method of claim 7, wherein said nanoimprint resist comprises from about 20 weight percent to 100 weight percent of said polymeric composition, up to about 80 weight percent of a plasticizer, and up to about 30 weight percent of a mold release agent.

18. The method of claim 7, wherein said nanoimprint resist comprises;

a) from about 1 weight percent to about 50 weight percent of an oligomer;

b) from about 0.01 weight percent to about 10 weight percent of a crosslinking agent;

c) from about 50 weight percent to about 90 weight percent of a monomer; and

d) from about 0.01 weight percent to about 2 weight percent of a photoinitiator.

19. The method of claim 7, wherein sub-50 nanometer structures are formed.

20. The method of claim 7, wherein said polymeric material is above its glass transition temperature upon removal of said mold.

21. A thin film, comprising:

a) a nanoimprint resist comprising a polymeric composition capable of being deformed by a mold at a temperature of less than 200°C, said mold being capable of forming a plurality of structures having at least one dimension less than 200 nm, said polymeric composition being capable of retaining said plurality of structures upon removal of said mold.

22. The thin film of claim 21, wherein said nanoimprint resist further comprises a plasticizer, a mold release agent, a monomer, a crosslinker, an additive, or any combination thereof.

23. The thin film of claim 21, wherein said nanoimprint resist comprises from about 20 weight percent to 100 weight percent of said polymeric composition, up to about 80 weight percent of a plasticizer, and up to about 30 weight percent of a mold release agent.

24. The thin film of claim 21, wherein said polymeric composition comprises;

a) from about 1 weight percent to about 50 weight percent of units derived from an oligomer;

b) from about 0.01 weight percent to about 10 weight percent of units derived from a crosslinking agent; and

c) from about 50 weight percent to about 90 weight percent of units derived from a monomer.

25. The thin film of claim 21, wherein said polymeric composition is capable of being deformed at a temperature of less than about 100°C.

26. The thin film of claim 25, wherein said polymeric composition is capable of being deformed at a temperature above about 10°C.

27. The thin film of claim 21, wherein said polymeric composition comprises a photocurable polymeric composition, a thermoplastic polymeric composition, a thermosettable polymeric composition, or any combination thereof.

28. The thin film of claim 21, wherein said nanoimprint resist comprises a glass transition temperature below about 10°C.

29. A nanoimprint resist, comprising a polymeric composition capable of being deformed by a mold at a temperature of less than 200°C, said mold capable of forming a plurality of structures having at least one dimension less than 200 nm, said polymeric composition capable of retaining said plurality of structures upon removal of said mold.